

Appl. No. 10/574738
Amdt. Dated June 16, 2008
Reply to Office action of April 11, 2008

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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A liquid discharge device having a liquid discharge head in which a plurality of liquid discharge portions are arrayed on a substrate, each of said liquid discharge portions comprising; including

a liquid chamber for storing a liquid to be discharged,

flying ejection force supplying means disposed within said liquid chamber, for providing the liquid within said liquid chamber with flying ejection force, and

a nozzle formation member forming a nozzle for discharging the liquid stored in said liquid chamber by actions of said flying ejection force supplying means,

are arrayed on a substrate, said liquid discharge device further comprising:

individual channels, separated by barrier walls, provided for each of said liquid discharge portions so as to communicate with said respective liquid chamber and supply liquid to within said respective liquid chamber; and

a contiguous common channel provided to disposed across each of said plurality of individual channels so as to communicate with each of said plurality of individual channels [,.] and for supplying liquid to said plurality of individual channels;

said contiguous common channel including being comprised of:

a first common channel portion provided on a liquid supply source side, parallel to arrayed rows of said nozzles, and parallel to the discharge direction of the liquid, and

a second common channel portion provided adjacent to between said first common channel portion and said individual channels and communicating with said individual channels, and having

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liquid channel resistance greater than that of said first common channel portion.

2. (Currently Amended) The liquid discharge device according to Claim 1, wherein the channel cross-sectional area of said second common channel portion perpendicular to the a supply direction of said liquid through said second common channel portion is formed smaller than the channel cross-sectional area of said first common channel portion perpendicular to the a supply direction of said liquid through said first common channel portion, thereby setting the channel resistance of said second common channel portion greater than the channel resistance of said first common channel portion.

3. (Currently Amended) The liquid discharge device according to Claim 1, wherein at least a part of said second common channel portion is configured comprised of at least a part of said liquid discharge head.

4. (Currently Amended) The liquid discharge device according to Claim 1, wherein said second common channel portion is formed such that the channel resistance as to the movement direction of liquid to the plurality of individual channels with which said second common channel portion communicates is generally substantially constant.

5. (Currently Amended) The liquid discharge device according to Claim 1, wherein a plurality of said liquid discharge heads are provided, and said second common channels channel portion of said plurality of said liquid discharge heads are is formed so as to have generally substantially the same

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constant channel resistance.

6. (Currently Amended) The liquid discharge device according to Claim 1, wherein said second common channel portion is formed so as to have generally the same channel flow direction as said individual channels.

7. (Currently Amended) The liquid discharge device according to Claim 1, wherein at least a part of a wall comprising said second common channel portion is disposed on a face of said substrate where said individual channels are provided.

8. (Currently Amended) The liquid discharge device according to Claim 1, wherein at least a part of a wall comprising said second common channel portion is disposed on a face of said substrate where said individual channels are provided, and further is formed of the a same material as the material configuring comprising said liquid discharge portions or said individual channels.

9. (Currently Amended) The liquid discharge device according to Claim 1, wherein said substrate has a face perpendicular to or generally perpendicular to a face where said individual channels are provided, with and at least a part of a wall comprising said second common channel portion using is said perpendicular or generally perpendicular face as one wall face of said second common channel.

10. (Currently Amended) The liquid discharge device according to Claim 1, wherein at least a

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part of a wall comprising said second common channel portion is disposed on a face of said substrate where said individual channels are provided, and wherein said substrate has a face perpendicular to or generally perpendicular to a face where said individual channels are provided, with at least a different part of a wall comprising said second common channel portion ~~using is~~ said perpendicular or generally perpendicular face as one wall face of said second common channel.

Please add the following new claims:

11. (New) The liquid discharge device according to Claim 1, wherein pillars are formed in said second common channel portion.
12. (New) The liquid discharge device according to Claim 1, wherein a flow direction of liquid in the entire length of the second common channel portion is perpendicular to a flow direction of liquid in said individual channels.
13. (New) The liquid discharge device according to Claim 2, wherein a flow direction of liquid in the entire length of the second common channel portion is perpendicular to a flow direction of liquid in said individual channels.
14. (New) The liquid discharge device according to Claim 1, wherein a flow direction of liquid in a first part of the second common channel portion is perpendicular to a flow direction of liquid in

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said individual channels, and a flow direction of liquid in a second part of the second common channel portion is parallel to a flow direction of liquid in said individual channels.

15. (New) The liquid discharge device according to Claim 2, wherein a flow direction of liquid in a first part of the second common channel portion is perpendicular to a flow direction of liquid in said individual channels, and a flow direction of liquid in a second part of the second common channel portion is parallel to a flow direction of liquid in said individual channels.

16. (New) The liquid discharge device according to Claim 14, wherein pillars are formed in said second part of said second common channel portion but not in said first part of said second common channel portion.

17. (New) The liquid discharge device according to Claim 15, wherein pillars are formed in said second part of said second common channel portion but not in said first part of said second common channel portion.